We claim:

1. A method of identifying the function of a test compound, the method comprising

providing a plurality of cells, the plurality comprising at least a first cell and a second cell, wherein the second cell is a different cell type from the first cell type;

contacting each of the cells in the plurality with a test compound;

measuring expression of one or more genes in said first cell; and

measuring expression of one or more genes in said second cell;

wherein an alteration in the expression of said genes relative to the expression of said one or more genes in a reference cell indicates the function of said test compound.

2. The method of claim 1, wherein expression of at least two genes is measured in said first cell.

3. The method of claim 2, wherein expression of at least five genes is measured in said first cell.

4. The method of claim 2, wherein expression of at least two genes is measured in said second cell.

5. The method of claim 1, wherein said method further comprises measuring the expression of one or more genes in a third cell, wherein the third cell is a different cell type from the first cell and the second cell.

6. The method of claim 5, wherein said method further comprises measuring the expression of one or more genes in a fourth cell, wherein the fourth cell is a different cell type from the first cell, the second cell type, and the third cell type.

7. The method of claim 6, wherein said method further comprises measuring the expression of three or more genes in at least one of said second cell, third cell, or fourth cell.

8. The method of claim 6, wherein said method further comprises measuring the expression of three or more genes in at least two of said second cell, third cell, or fourth cell.

9. The method of claim 6, wherein said method further comprises measuring the expression of three or more genes in at least three of said second cell, third cell, or fourth cell.

10. The method of claim 1, wherein said cells are provided in a container.

11. The method of claim 1, wherein expression of one or more of said genes is compared to expression of a reference gene.

12. The method of claim 11, wherein said test compound modulates expression of said one or more genes at least four-fold relative to said reference gene.

13. The method of claim 1, wherein said test compound is a polypeptide.

14. The method of claim 1, wherein said method comprises contacting at least some cells in said plurality with two or more test compounds.

15. The method of claim 1, wherein said plurality of cells comprises mammalian cells.

16. The method of claim 15, wherein said cells are human cells.

17. The method of claim 1, wherein said first cell is selected from the group consisting of MG-63 cells, U87-MG cells, TF-1 cells, HepG2 cells, THP-1 cells, HUVEC cells, CCD-1070SK cells, and Jurkat E6-1 cells.

18. The method of claim 1, wherein expression of one or more sequences is measured using real-time polymerase chain reaction.

19. A method of identifying the function of a polypeptide test compound, the method comprising

providing a plurality of cells, the plurality comprising at least a first mammalian cell, a second mammalian cell, and a third mammalian cell, wherein the first cell is a different cell type from the second cell type, the second cell type is a different cell type from the third cell type, and the third cell type is a different cell type from the first cell type;

contacting each of the cells in the plurality with said polypeptide;

measuring expression of three more genes in said first cell;

measuring expression of three or more genes in said second cell; and

measuring expression of three or more genes in said third cell;

wherein an alteration in the expression of said genes relative to the expression of said genes in a reference cell indicates the function of said test compound.

20. The method of claim 19, wherein expression of said genes is measured using real-time polymerase chain reaction.